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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,025	10/29/2003	Aravanan Gurusami	100.188US02	6041

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EXAMINER	
PHAN, HANH	

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,025	GURUSAMI ET AL.	
	Examiner	Art Unit	
	Hanh Phan	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/20/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-67 of U.S. Patent No. 6,643,471 (Gurusami et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-12 of the instant application are encompassed by claims 1-67 of U.S. Patent No. 6,643,471 (Gurasami et al).

Regarding claims 1 and 6, Gurusami (U.S. Patent No. 6,643,471) discloses a method for decoding a plurality of serial, digital data streams from an optical signal, the method comprising:

receiving the optical signal, wherein the optical signal is a pulse amplitude modulated signal;

converting the optical signal to an electrical;

comparing the electrical signal with a plurality of levels;

producing comparison output signals based on the comparison of the electrical signal with the plurality of levels;

processing the comparison output signals on a clock to produce processed output signals; and

latching the processed output signals on a clock signal to generate the plurality of serial, digital data streams (see claims 9-14 and 42-55 of U.S. Patent No. 6,643,471).

Regarding claims 2 and 7-9, Gurusami (U.S. Patent No. 6,643,471) discloses further comprising selectively adjusting the peak to peak level of the electrical signal prior comparing (see claim 50 of U.S. Patent No. 6,643,471).

Regarding claims 3 and 10, Gurusami (U.S. Patent No. 6,643,471) discloses comparing the electrical signal with a plurality of levels comprises comparing the electrical signal with N levels for M serial, digital data streams (see claim 53 of U.S. Patent No. 6,643,471).

Regarding claims 4 and 11, Gurusami (U.S. Patent No. 6,643,471) discloses comparing the electrical signal with a plurality of levels comprises comparing the electrical signal with 2^M-1 levels for M serial, digital data streams (see claim 54 of U.S. Patent No. 6,643,471).

Regarding claims 5 and 12, Gurusami (U.S. Patent No. 6,643,471) discloses comparing the electrical signal with a plurality of levels comprises comparing the

electrical signal with M levels for M serial, digital data streams (see claim 55 of U.S. Patent No. 6,643,471).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knotz (US Patent No. 6,289,055) in view of Wedding (US Patent No. 5,510,919).

Regarding claims 1 and 6, referring to Figure 4, Knotz discloses a method for decoding a plurality of serial, digital data streams from an signal, the method comprising:

receiving the multilevel signal (i.e., receiving the multilevel signal m, Fig. 4), wherein the signal is a pulse amplitude modulated signal;

comparing (i.e., comparators 31, 32, 33, Fig. 4) the electrical signal with a plurality of levels;

producing comparison output signals based on the comparison of the electrical signal with the plurality of levels (Fig. 4);

processing the comparison output signals on a clock to produce processed output signals (Fig. 4); and

latching the processed output signals on a clock signal to generate the plurality of serial, digital data streams (col. 3, lines 10-67, col. 4, lines 1-67 and col. 5, lines 1-47).

Knotz differs from claims 1 and 6 in the he fails to teach the multilevel signal is an optical multilevel signal. However Wedding in US Patent No. 5,510,919 teaches the multilevel signal is an optical multilevel signal (Figs 1-4, from col. 2, line 35 through col. 4, line 67). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the multilevel signal is an optical multilevel signal as taught Wedding in the system of Knotz. One of ordinary skill in the art would have been motivated to do this since Wedding suggests in column 2, lines 35-67, col. 3, lines 1-67 and col. 4, lines 1-67 that using such the multilevel signal is an optical multilevel signal have advantage of allowing providing an optical communication system for transmitting a multilevel signal with high speed and high capacity.

Regarding claims 3 and 10, the combination of Knotz and Wedding teaches comparing the electrical signal with a plurality of levels comprises comparing the electrical signal with N levels for M serial, digital data streams (see Figs. 1-4 of Wedding).

Regarding claims 4 and 11, the combination of Knotz and Wedding teaches comparing the electrical signal with a plurality of levels comprises comparing the electrical signal with 2^{M}-1 levels for M serial, digital data streams (see Figs. 1-4 of Wedding).

Regarding claims 5 and 12, the combination of Knotz and Wedding teaches comparing the electrical signal with a plurality of levels comprises comparing the

electrical signal with M levels for M serial, digital data streams (see Figs. 1-4 of Wedding).

5. Claims 2 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knotz (US Patent No. 6,289,055) in view of Wedding (US Patent No. 5,510,919) and further in view of Ohhata et al (US Patent No. 6,304,357 cited by applicant).

Regarding claims 2 and 7-9, the combination of Knotz and Wedding differs from claims 2 and 7-9 in that it fails to teach selectively adjusting the peak to peak level of the electrical signal prior comparing. However Ohhata in US Patent No. 6,304,357 teaches selectively adjusting the peak to peak level of the electrical signal prior comparing (Fig. 1, col. 1, lines 10-67). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the selectively adjusting the peak to peak level of the electrical signal prior comparing as taught Ohhata in the system of the combination of Knotz and Wedding. One of ordinary skill in the art would have been motivated to do this since Ohhata suggests in column 1, lines 10-67 that using such the selectively adjusting the peak to peak level of the electrical signal prior comparing have advantage of allowing maintaining the power level of signal at constant level.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

Hanh Phan

08/24/2004